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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,423	03/04/2002	Toshikazu Ohnishi	Q68580	1370
23373	7590	08/03/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			ALI, MOHAMMAD M	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

TWT

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/086,423	OHNISHI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mohammad Ali	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,5 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,5 and 8-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

***Specification***

The amendment filed 02/18/04 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "quite large" in place of "minimum" and "small" in place of "quite large"

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arpentinier (5,356,213). Arpentinier discloses a process and apparatus for mixing two gases comprising a supply duct 2 for supply of another fluid such as oxygen to the flow of one fluid such as air F, the duct connected to a nozzle having a tip end/injection heat 3 of which is disposed at a center portion of flow of the one fluid, wherein a predetermined angle is formed between a flow direction on the one fluid F and a flow direction of the another fluid oxygen. Arpentinier discloses the invention substantially as claimed as stated above. However, Arpentinier does not disclose a valve connected to tube/duct 2 to control the flow of fluid therethrough. The Examiner considers obviously there should be some sort of controlling arrangement of

flowing fluids/liquid on both the tube/duct 2 and channel 1 because no fluid is allowed to flow continuously without any control. See Fig.3.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arpentinier in view of Miyazaki (6,444,047). Arpentinier discloses the invention substantially as claimed as stated above. However, Arpentinier does not disclose plurality of valves and plurality of mixing points. Miyazaki teaches the use plurality of valves V1-V4 and plurality of mixing points at the meeting points of pipes 208 to 211 in a fluid mixing system for the purpose of mixing fluids. See Fig. 3. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process and apparatus for mixing two gases of Arpentinier in view of Miyazaki such that plurality of valves and plurality of mixing points could be provided in order to mix the fluids.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arpentinier in view of Toms (3,870,801). Arpentinier discloses the invention substantially as claimed as stated above. However, Arpentinier does not disclose a nozzle size of 2mm diameter. Toms teaches the use a nozzle having 2mm diameter in a fluid mixing

system for the purpose of mixing fluids. See column 16, lines 54-57. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process and apparatus for mixing two gases of Arpentinier in view of Toms such that a nozzle of having size of 2mm diameter could be provided in order to mix the fluids.

### ***Response to Arguments***

Applicant's arguments filed 07/14/05 have been fully considered but they are not persuasive. The Applicant argued, "The cited reference, Arpentinier, on the other hand, necessitates a complicated structure, for example, vane (6), taper (9) or the like so as to efficiently mix the gases. Further, the Arpentinier nozzle is not inserted in a perpendicular manner as recited in the claims (see Figure 1 as acknowledged by the Examiner." The examiner disagrees. Arpentinier clearly states that the second gas is injected in the flow of the first gas perpendicularly to the direction of the flow of the first gas, (see column 1, lines, 44-46. It clearly indicated the nozzles are also perpendicular to the other gas stream. Therefore, the rejections are still valid for the previous claims and further rejections have been made for the new claims 11 and 12.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

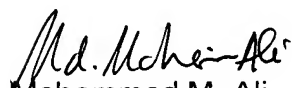
Art Unit: 3744

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is (571) 272-4806. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-4834.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mohammad M. Ali  
August 1, 2005